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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/676,409 | 10/01/2003 | Lihui Zhang | 6741P002 | 8065 |

45062 7590 02/25/2011

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| EXAMINER | |
|---|---|
| IWARERE, OLUSEYE | |
| **ART UNIT** | **PAPER NUMBER** |
| 3687 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 02/25/2011 | PAPER |

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The time period for reply, if any, is set in the attached communication.

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**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application Number: 10/676,409
Filing Date: October 01, 2003
Appellant(s): ZHANG ET AL.

Susan M. Manriquez
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed August 12, 2009 appealing from the Office action mailed May 12, 2009.

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims 1 – 19

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

## NEW GROUND(S) OF REJECTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the sixth paragraph of 35 U.S.C. 112:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

**2. Claims 1 – 3 and 10 – 13, are rejected under 35 U.S.C. 112, sixth paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.**

**As per claim 1,** it recites, "demand order module to receive an order",

The corresponding structure in the specification is found in: 7:26-30; Fig. 2:205 (process block in a flow diagram that merely repeats the module name)

This portion of the Specification merely repeats the function and provides examples as "Demand projection module 227 may utilize the data supplied by target location node 221 to generate a set of demand orders that may be stored in a demand order module 205. In one embodiment, demand order module maybe a data structure

that stores and tracks a set of products for which demand has been projected by demand projection module 227.", and does not show a structure or algorithm for receiving an order. Although this portion of the Specification describes an example of storing and tracking products, it does not show a structure or algorithm for doing so.

**Claim 1 also recites,** "transportation guideline module including a set of constraints for a shipment."

The corresponding structure in the specification is found in: 8:8-19; Fig. 2:207 (process block in a flow diagram that merely repeats the module name)

This portion of the Specification merely repeats the function and provides examples as "a best guidelines determination module 235 utilizes a prioritization module 209 to sort a set of order guidelines in an order guideline module 207. An order guideline module 207 is a data structure that includes a set of order guidelines. An order guideline defines how a given set of products can be shipped from a source location to a target location. An order guideline may include limitations on weight, volume, and other similar factors affecting the utilization of transport capacity. These limitations may be connected by Boolean operators to form a complex logical expression which ultimately determines whether the order guideline is satisfied or not. Order guidelines may also include a set of transportation method constraints (e-g., constraints related to a truck, train, or similar vehicle) and minimum order increment constraints.", and does not show a structure or algorithm for shipping. Although this portion of the Specification

describes an example of what data might be stored, it does not show a structure or algorithm for doing so.

**Claim 1 also recites,** "route determination module to select at least one source location."

The corresponding structure in the specification is found in: 8:25-31; Fig. 2:235 (process block in a flow diagram that merely repeats the module name)

This portion of the Specification merely repeats the function and provides examples as "Best guideline determination module 235 iteratively analyzes the order guidelines including simulating a load of a set of transports based on the order guidelines using load simulation module 203. [0021] The best guidelines determination module 235 may select a group of order guidelines to utilize based upon the cost of shipping a set of products from a source location to a target location. The cost of shipping may be influenced by the utilization of the capacity of the transports used for shipping (e.g., creating 'full' loads for a transport). Maximizing the utilization of the transport can reduce the per item or unit shipping costs. Best guideline determination module 235 attempts to maximize the usage of the capacity of the set of transports. Maximum utilization may be measured in any appropriate manner such as the number of shipping units that a transport may carry, the weight limit a transport may carry, the volume of goods that a transport may carry or by use of similar criteria or the combination of them such as 'weight above value X or volume above value Y', as defined by the order guideline.", and does not show a structure or algorithm for selecting

at least one source location. Although this portion of the Specification describes an example of factors to consider, it does not show a structure or algorithm for performing the function.

**As per claim 3,** it recites "loading module to simulate a loading."

The corresponding structure in the specification is found in: 8:¶ 0020; Fig. 2:203 (process block in a flow diagram that merely repeats the module name)

This portion of the Specification merely repeats the function and provides examples as "Best guideline determination module 235 iteratively analyzes the order guidelines including simulating a load of a set of transports based on the order guidelines using load simulation module 203.", and does not show a structure or algorithm for simulating a loading. Although this portion of the Specification describes performing the function iteratively, it does not show a structure or algorithm for performing the function itself.

**As per claim 10**, it recites "means for determining a set of source locations having a set of resources when an order for the set of resources is fulfilled"

The corresponding structure in the specification is found in: 11:22-31; Fig. 4:405 (process block in a flow diagram that merely repeats the function)

This portion of the Specification merely repeats the function and provides examples as "all of the possible source locations that may provide any subset of the set of products for which demand has been predicted for a target location are determined

(block 405). This may include identifying all of the order guidelines related to the set of products for which demand has been predicted for each route between the source locations and target location. In one embodiment, all non-orderable items (e.g., products that are no longer produced, out of stock at all source locations or similar unavailable products) may be removed from the order demands. In a further embodiment, order guidelines that cannot satisfy lead-time or similar criteria for shipping requirements may be removed from consideration.", and does not show a structure or algorithm for determining a set of source locations. Although this portion of the Specification provides some guidelines for special cases such as products no longer produced, it still provides no description of a structure or algorithm to perform the operation.

**Claim 10 also recites**, "means for ordering a set of shipping rule groups based on a cost of shipping to a target location from the set of source locations".

The corresponding structure in the specification is found in: 12:1-9; Fig. 4:407 (process block in a flow diagram that merely repeats the function).

This portion of the Specification merely repeats the function and provides examples as "The order guidelines may then be prioritized based on a cost of shipping from their corresponding source locations to the target location (block 407). For example, if order guideline A 309 has an associated cost of $2.50 per shipping unit, order guideline B 213 has a cost of $1.50 and order guideline C 317 has a cost of $2.25 then the order guidelines would be prioritized B, C, then A", and does not show a structure or algorithm for ordering a set of shipping rule groups based on a cost of

shipping. Although this portion of the Specification provides an example of how one set of groups would be ordered, this example does not describe the structure or algorithm used to arrive at the ordering presented.

**Claim 10 also recites**, "means for selecting a subset of the set of shipping rule groups and a subset of the set of source locations based on the cost."

The corresponding structure in the specification is found in: 13:5-15 (Although the Appellants mention Fig. 4:415, this is merely the termination block in the flow diagram).

This portion of the Specification merely repeats the function and provides examples as "order guidelines B 313 may be applied to satisfy the demand for seventy five shipping units of product A by loading the shipping units into a transport. However, if a transport holds more than seventy five shipping units then the transport would not have its maximum capacity utilized. After the order guideline has been exhausted, a check is made to determine if the demand has been satisfied (block 411). The demand is satisfied when all products for which a demand has been predicted for the current time period have been loaded into a set of transports. For example seventy five units of product A does not satisfy the demand for product B of which no shipping units have been loaded. In one embodiment, the best guidelines determination module 235 configures the transports to be fully loaded transports. If the demand has been satisfied then the process is complete (block 415) and instructions may be sent to the source location(s) for loading the set of transports", and does not show a structure or algorithm

for selecting a subset of the set of shipping rule groups and a subset of the set of source locations. Although this portion of the Specification provides an example of selecting one subset when another subset does not fill the quota, this example does not describe the structure or algorithm used to arrive at the selecting presented.

**As per claim 10**, it recites, "means for simulating the loading of the set of transports."

The corresponding structure in the specification is found in:13:¶ 0030; Fig. 4:409 (process block in a flow diagram that merely repeats the function)

This portion of the Specification merely repeats the function as "[i]f all of the order guidelines have not been exhausted the next highest priority order guideline may be selected and simulated (block 409). For example, best guidelines determination module 235 may next simulate order guidelines C 317 and A 309. In the example, if a transport can hold 100 shipping units of A or B interchangeably then order guideline C 317 would be successfully used to fully load a transport with seventy five units of product A and twenty five shipping units of product B", and does not show a structure or algorithm for simulating the loading of the set of transports Although this portion of the Specification provides an example of selecting one subset for simulation, this example does not describe the structure or algorithm used to perform the simulation.

**As per claim 13,** it recites, "means for determining all source locations having the set of resources."

The corresponding structure in the specification is found in: 11:22-31; Fig. 4:405 (process block in a flow diagram that merely repeats the function)

This portion of the Specification merely repeats the function and provides examples as "all of the possible source locations that may provide any subset of the set of products for which demand has been predicted for a target location are determined (block 405). This may include identifying all of the order guidelines related to the set of products for which demand has been predicted for each route between the source locations and target location. In one embodiment, all non-orderable items (e.g., products that are no longer produced, out of stock at all source locations or similar unavailable products) may be removed from the order demands. In a further embodiment, order guidelines that cannot satisfy lead-time or similar criteria for shipping requirements may be removed from consideration.", and does not show a structure or algorithm for determining all source locations.

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

Arunapuram et al. (U.S. Patent Publication No. 2002/0019759)

Morimoto (U.S. Patent No. 7,035,856)

Cappellini (U.S. Patent Publication No. 2003/0014286)

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**2. Claims 1, 2, 4, 5, 7 – 10, 13 – 16, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arunapuram et al. (2002/0019759) in view of Morimoto (7,035,856).**

**As per claim 1,** Arunapuram discloses, an apparatus comprising:

a demand order module to receive an order for a set of products to be shipped to a target location ([0034]; via specifically, referring to FIG. 2, after shipping orders are received 201, a first manager module);

an order guideline module including a set of constraints for a shipment from one of a set of a source locations to the target location ([0034]; via the problem-solver ("PS") module 300 of FIG. 3, plans at step 202 optimal freight movements between a initial pick-up location and a final drop-off location); and

a processing device to execute the route determination module ([0034]; via at step 203, the optimal freight movements are planned in step 202 are executed and tracked by a second manager module, the execution ("EX") module 400 of FIG. 4).

However, Arunapuram fails to explicitly disclose a route determination module to select at least one source location from the set of source locations having the set of products when the order for the set of products is fulfilled based on a cost factor and a utilization of a capacity of a set of transports.

Morimoto teaches a system and method for tracking and routing shipped items with the feature of a route determination module to select at least one source location from the set of source locations having the set of products when the order for the set of products is fulfilled based on a cost factor and a utilization of a capacity of a set of transports ([abstract]) discusses determining a route from a subset of source locations.

From this teaching of Morimoto, it would have been obvious to modify the system and method of Arunapuram, to include the route determination module taught by Morimoto in order to provide adequate routing for the items.

**As per claim 2,** Arunapuram further discloses comprising:

a storage device to store at least one of the demand order module, the guideline module, and the route determination module ([0007]; via the parcel ID and its location information are then transmitted by the host computer to one or more web servers, each including a database for storing a record of the parcel ID's scanned at each location).

**As per claim 4,** Arunapuram discloses,

prioritizing a set of shipping rule groups based on a cost factor associated with the set of source locations and the target location ([0055]; via a particularly advantageous feature of the present invention involves the use of priority routing rules in the PS database that enable a transportation planning manager to influence the creation of loads and freight movements when lowest cost is not the most important consideration);

and selecting a subset of the set of source locations and a subset of the shipping rule groups based on the cost factor and a utilization of a capacity of a set of transports ([0055]; via typically, after it identifies all potential suitable freight movements for each order, the PS logic identifies the lowest cost transportation solution).

However, Arunapuram fails to explicitly disclose identifying a set of source locations having a set of desired resources for a target location when an order for the set of desired resources is fulfilled.

However, Arunapuram fails to explicitly disclose identifying a set of source locations having a set of desired resources for a target location when an order for the set of desired resources is filled.

Morimoto teaches a system and method for tracking and routing shipped items with the feature of identifying a set of source locations having a set of desired resources for a target location when an order for the set of desired resources is fulfilled ([abstract] discusses identifying a set of source locations).

From this teaching of Morimoto, it would have been obvious to modify the system and method of Arunapuram, to include the identifying of a set of source locations taught by Morimoto in order to further provide adequate routing for the items.

**As per claim 5,** Arunapuram discloses, wherein selecting comprises:

searching iteratively through the set of shipping rule groups ([0113]; Once received, carriers can review tender offers and electronically provide an acceptance or decline (the EX monitoring this acceptance/decline communication at step 606) of the tender offer to the execution module 400 via response interface 412. The EX logic can then re-route any declined orders back to the problem-solver module 300 as unexecuted orders 411 through unexecuted freight movement interface 410 for selection of a different carrier or transportation solution. Fig. 6 also illustrates iterative searching through a control loop) in order of priority for a shipping solution ([0055]; A particularly advantageous feature of the present invention involves the use of priority routing rules in the PS database that enable a transportation planning manager to influence the creation of loads and freight movements when lowest cost is not the most important consideration).

**As per Claim 7,** Arunapuram discloses, wherein the set of shipping rule groups includes a default group of shipping rules ([0057]; via These rates are specified in a

plurality of tables which are stored in the PS database 402 for use during batch runs. such rate tables are stored therein for each carrier type).

**As per claim 8,** Arunapuram discloses, wherein the utilization of the capacity of the set of transports is a maximum utilization ([0058]; via when the PS logic begins its batch run at step 603 to generate an optimal freight movement plan (for all orders received since its last batch run) it performs several sub-steps which are detailed in FIG. 7).

**As per claim 9,** Arunapuram discloses, further comprising:

altering a size of a shipment to utilize a maximum capacity of the set of transports ([0059]; via during a batch run, the problem-solver logic 301 first consolidates various orders and shipments into transportation loads at sub-step 701. Then, a determination is made at sub-step 702 for each load as to the best shipping mode).

**As per claim 10,** Arunapuram discloses, an apparatus comprising:

a means for ordering a set of shipping rule groups and a subset of source locations based on a cost of shipping to a target location from the set of source locations ([0059]; via the system uses various types of information including data detailing the required freight movements, tables itemizing resource availability and cost,

operational requirements of the industry, and general company rules and policies entered by the company's transportation planning manager); and

a means for selecting a subset of the set of shipping rule groups and a subset of the set of source locations ([0010]; This functionality would also allow an organization to dynamically select crossdock and pool point locations (i.e., transportation hubs or through-points) based upon the organization's business requirements and costs) based on the cost of shipping the set of resources from the subset of the set of source locations to the target location and utilization of a set of transports ([0055]; via a particularly advantageous feature of the present invention involves the use of priority routing rules in the PS database that enable a transportation planning manager to influence the creation of loads and freight movements when lowest cost is not the most important consideration);

However, Arunapuram fails to explicitly disclose a means for determining a set of source locations having a set of resources when an order for the set of resources is fulfilled.

Morimoto teaches a system and method for tracking and routing shipped items with the feature of a means for determining a set of source locations having a set of resources when an order for the set of resources is fulfilled ([abstract]) discusses determining a route from a subset of source locations.

From this teaching of Morimoto, it would have been obvious to modify the system and method of Arunapuram, to include means for determining a set of source locations taught by Morimoto in order to provide adequate routing for the items.

**As per claim 12,** Arunapuram discloses, wherein the set of shipping rule groups includes a default shipping rule group ([0054]; via transportation planning managers can, for example, by using the manager interface 404, define route planning rules, create templates that define legs for multiple leg routes and multiple mode routes (the entering of such templates, while done at step 601 prior to a batch run, will be discussed in detail below with respect to step 603).

**As per claim 13,** Arunapuram discloses, further comprising:

a means for determining all source locations having the set of resources ([0034]; via the problem-solver ("PS") module 300 of FIG. 3, plans at step 202 optimal freight movements between a initial pick-up location and a final drop-off location).

**As per claim 14,** Arunapuram discloses, a machine readable medium containing therein a set of instructions which when executed cause a machine to perform a set of operations comprising (pg 18, col. 1, lines 59 - 61; via program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform method steps for managing transportation operations for a plurality of orders):

prioritizing a set of order guidelines based on a cost factor for shipping the set of products from the set of source locations to the target location (pg 18, col. 2, lines 6 - 10; via wherein said planning step comprises the sub-steps of generating a plurality of potential freight movements to satisfy each order and identifying the lowest cost freight movement from said plurality of potential freight movements);

and determining a subset of the set of order guidelines and a subset of source locations (([0010]; This functionality would also allow an organization to dynamically select crossdock and pool point locations (i.e., transportation hubs or through-points) based upon the organization's business requirements and costs) based on the cost factor and utilization of a capacity of a set of transports (pg 18, col. 2, lines 49 - 52; via wherein said accounting step comprises the sub-steps of receiving invoices from carriers for executed freight movements, allocating actual costs detailed in said invoices to orders).

However, Arunapuram fails to explicitly disclose identifying a set of source locations having a set of desired resources for a target location when an order for the set of desired resources is filled.

Morimoto teaches a system and method for tracking and routing shipped items with the feature of identifying a set of source locations having a set of desired resources for a target location when an order for the set of desired resources is fulfilled ([abstract] discusses identifying a set of source locations).

From this teaching of Morimoto, it would have been obvious to modify the system and method of Arunapuram, to include the identifying of a set of source locations taught by Morimoto in order to further provide adequate routing for the items.

**As per claim 15,** Arunapuram discloses, the machine readable medium of claim 14, having further instructions stored therein, which when executed cause a machine to perform a set of operations, further comprising (pg 18, col. 1, lines 59 - 61; via program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform method steps for managing transportation operations for a plurality of orders):

searching iteratively through the set of order guidelines in order of priority for a shipping solution (pg 18, col. 2, lines 13 - 15; via wherein said plurality of potential freight movements are of types selected from the group consisting of direct routes from origin to destination).

**As per claim 16,** Arunapuram discloses, the machine readable medium of claim 14, wherein the set of order guidelines includes a default order guideline (pg 18, col. 2, lines 43 – 46; via wherein said status updates are used to automatically update records contained in an order database, said database being accessible by customers, carriers, and locations to review the status of select orders).

**As per claim 18,** Arunapuram discloses, wherein no product of the set of products is associated with more than one default order guideline ([0038]; via orders received through the order interface 306 have a single origin/destination pair).

**As per claim 19,** Arunapuram discloses, having further instructions stored therein, which when executed cause a machine to perform a set of operations, further comprising (pg. 18, col. 1, lines 59 - 61; via program storage device readable by a machine, tangibly embodying a program of instructions executable by a machine to perform method steps for managing transportation operations for a plurality of orders):

altering a size of a shipment to utilize a maximum capacity of the set of transports (pg. 19, col. 2, lines 3 - 7; via wherein said problem-solver constructs said optimal freight movements in batch runs, and wherein said batch runs comprise generating a plurality of potential freight movements to satisfy each order).

**6. Claims 3, 6, 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arunapuram et al. (2002/0019759) in view of Cappellini (2003/0014286).**

**As per claim 3,** Arunapuram et. al. discloses the claimed invention but fails to explicitly disclose, a loading module to simulate a loading of the shipment of the set of products into the set of transports.

Cappellini teaches a search and retrieval system of transportation-related flexibility defined paths, with the feature of a loading module to simulate a loading of the

shipment of the set of products into the set of transports ([0181]; in the preferred embodiment, it is a multidimensional spatial system capable of handling the three dimensions of a physical object, i.e. the width, length and height and the coordinate position within a predetermined space, for example a container) ([0182]; These types of applications can make a mathematical model of the required transport capacities such as the loads, as well as of the available transport capacities such as the cargo containers, in order to substantially simulate the loading conditions within the containing space.) ([0183]; Apart from performing loading operations and optimizations, this type of application can be used or easily adapted for the sole simple use of determining availability of space or capacity, for a new required transport capacity, i.e. to check if a load can conveniently fit in a transporting container that is empty or partially full with other loads).

From this teaching of Cappellini, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the transportation planning, execution and freight payment manager method of Arunapuram, to include the simulation of loading shipments taught by Cappellini in order to evaluate the feasibility of a shipping arrangement.

**As per claim 6,** Arunapuram et. al. discloses the claimed invention but fails to explicitly disclose, wherein selecting comprises:

simulating iteratively until the set of desired resources is loaded into the set of transportation units.

Cappellini teaches a search and retrieval system of transportation-related flexibility defined paths, with the feature of simulating iteratively the fulfillment of each group of the set of shipping rules in priority order until the set of desired resources is loaded into the set of transportation units ([0712] In the search to find a possible combination, the system now repeats the processes of FIG. 7 which were applied to an origin-destination pair, to every combination of origin-related first generation path waypoints) ([0182] These types of applications can make a mathematical model of the required transport capacities such as the loads, as well as of the available transport capacities such as the cargo containers, in order to substantially simulate the loading conditions within the containing space).

From this teaching of Cappellini, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the transportation planning, execution and freight payment manager method of Arunapuram, to include the iterative simulation of loading shipments taught by Cappellini in order to find the most desired shipping arrangement.

**As per claim 11,** Arunapuram et al. discloses the claimed invention but fails to explicitly disclose a means for simulating the loading of the set of transports.

Cappellini teaches a search and retrieval system of transportation-related flexibility defined paths, with the feature of a means for simulating the loading of the set of transports([0181]; in the preferred embodiment, it is a multidimensional spatial system capable of handling the three dimensions of a physical object, i.e. the width,

length and height and the coordinate position within a predetermined space, for example a container) ([0182]; These types of applications can make a mathematical model of the required transport capacities such as the loads, as well as of the available transport capacities such as the cargo containers, in order to substantially simulate the loading conditions within the containing space.) ([0183]; Apart from performing loading operations and optimizations, this type of application can be used or easily adapted for the sole simple use of determining availability of space or capacity, for a new required transport capacity, i.e. to check if a load can conveniently fit in a transporting container that is empty or partially full with other loads).

From this teaching of Cappellini, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the _ of Arunapuram, to include the simulation of loading shipments taught by Cappellini in order to evaluate the feasibility of a shipping arrangement.

**As per claim 17,** Arunapuram et. al. discloses the claimed invention but fails to explicitly disclose, wherein selecting comprises:

simulating iteratively until the set of desired resources is loaded into the set of transportation units.

Cappellini teaches a search and retrieval system of transportation-related flexibility defined paths, with the feature of simulating iteratively the fulfillment of each group of the set of shipping rules in priority order until the set of desired resources is loaded into the set of transportation units ([0712] In the search to find a possible

combination, the system now repeats the processes of FIG. 7 which were applied to an origin-destination pair, to every combination of origin-related first generation path waypoints) ([0182] These types of applications can make a mathematical model of the required transport capacities such as the loads, as well as of the available transport capacities such as the cargo containers, in order to substantially simulate the loading conditions within the containing space).

From this teaching of Cappellini, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the transportation planning, execution and freight payment manager method of Arunapuram, to include the iterative simulation of loading shipments taught by Cappellini in order to find the most desired shipping arrangement.

## NEW GROUND(S) OF REJECTION

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the sixth paragraph of 35 U.S.C. 112:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

**4. Claims 1, 3, 10, 11 and 13, are rejected under 35 U.S.C. 112, sixth paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.**

**As per claim 1,** it recites, “demand order module to receive an order”,

The corresponding structure in the specification is found in: 7:26-30; Fig. 2:205 (process block in a flow diagram that merely repeats the module name)

This portion of the Specification merely repeats the function and provides examples as "Demand projection module 227 may utilize the data supplied by target location node 221 to generate a set of demand orders that may be stored in a demand order module 205. In one embodiment, demand order module maybe a data structure that stores and tracks a set of products for which demand has been projected by demand projection module 227.", and does not show a structure or algorithm for receiving an order. Although this portion of the Specification describes an example of storing and tracking products, it does not show a structure or algorithm for doing so.

**Claim 1 also recites,** "transportation guideline module including a set of constraints for a shipment."

The corresponding structure in the specification is found in: 8:8-19; Fig. 2:207 (process block in a flow diagram that merely repeats the module name)

This portion of the Specification merely repeats the function and provides examples as "a best guidelines determination module 235 utilizes a prioritization module 209 to sort a set of order guidelines in an order guideline module 207. An order guideline module 207 is a data structure that includes a set of order guidelines. An order guideline defines how a given set of products can be shipped from a source location to a target location. An order guideline may include limitations on weight, volume, and other similar factors affecting the utilization of transport capacity. These limitations may

be connected by Boolean operators to form a complex logical expression which ultimately determines whether the order guideline is satisfied or not. Order guidelines may also include a set of transportation method constraints (e-g., constraints related to a truck, train, or similar vehicle) and minimum order increment constraints.", and does not show a structure or algorithm for shipping. Although this portion of the Specification describes an example of what data might be stored, it does not show a structure or algorithm for doing so.

**Claim 1 also recites,** "route determination module to select at least one source location."

The corresponding structure in the specification is found in: 8:25-31; Fig. 2:235 (process block in a flow diagram that merely repeats the module name)

This portion of the Specification merely repeats the function and provides examples as "Best guideline determination module 235 iteratively analyzes the order guidelines including simulating a load of a set of transports based on the order guidelines using load simulation module 203. [0021] The best guidelines determination module 235 may select a group of order guidelines to utilize based upon the cost of shipping a set of products from a source location to a target location. The cost of shipping may be influenced by the utilization of the capacity of the transports used for shipping (e.g., creating 'full' loads for a transport). Maximizing the utilization of the transport can reduce the per item or unit shipping costs. Best guideline determination module 235 attempts to maximize the usage of the capacity of the set of transports.

Maximum utilization may be measured in any appropriate manner such as the number of shipping units that a transport may carry, the weight limit a transport may carry, the volume of goods that a transport may carry or by use of similar criteria or the combination of them such as 'weight above value X or volume above value Y', as defined by the order guideline.", and does not show a structure or algorithm for selecting at least one source location. Although this portion of the Specification describes an example of factors to consider, it does not show a structure or algorithm for performing the function.

**As per claim 3,** it recites "loading module to simulate a loading."

The corresponding structure in the specification is found in: 8:¶ 0020; Fig. 2:203 (process block in a flow diagram that merely repeats the module name)

This portion of the Specification merely repeats the function and provides examples as "Best guideline determination module 235 iteratively analyzes the order guidelines including simulating a load of a set of transports based on the order guidelines using load simulation module 203.", and does not show a structure or algorithm for simulating a loading. Although this portion of the Specification describes performing the function iteratively, it does not show a structure or algorithm for performing the function itself.

**As per claim 10**, it recites "means for determining a set of source locations having a set of resources when an order for the set of resources is fulfilled"

The corresponding structure in the specification is found in: 11:22-31; Fig. 4:405 (process block in a flow diagram that merely repeats the function)

This portion of the Specification merely repeats the function and provides examples as "all of the possible source locations that may provide any subset of the set of products for which demand has been predicted for a target location are determined (block 405). This may include identifying all of the order guidelines related to the set of products for which demand has been predicted for each route between the source locations and target location. In one embodiment, all non-orderable items (e.g., products that are no longer produced, out of stock at all source locations or similar unavailable products) may be removed from the order demands. In a further embodiment, order guidelines that cannot satisfy lead-time or similar criteria for shipping requirements may be removed from consideration.", and does not show a structure or algorithm for determining a set of source locations. Although this portion of the Specification provides some guidelines for special cases such as products no longer produced, it still provides no description of a structure or algorithm to perform the operation.

**Claim 10 also recites**, "means for ordering a set of shipping rule groups based on a cost of shipping to a target location from the set of source locations".

The corresponding structure in the specification is found in: 12:1-9; Fig. 4:407 (process block in a flow diagram that merely repeats the function).

This portion of the Specification merely repeats the function and provides examples as "The order guidelines may then be prioritized based on a cost of shipping

from their corresponding source locations to the target location (block 407). For example, if order guideline A 309 has an associated cost of $2.50 per shipping unit, order guideline B 213 has a cost of $1.50 and order guideline C 317 has a cost of $2.25 then the order guidelines would be prioritized B, C, then A", and does not show a structure or algorithm for ordering a set of shipping rule groups based on a cost of shipping. Although this portion of the Specification provides an example of how one set of groups would be ordered, this example does not describe the structure or algorithm used to arrive at the ordering presented.

**Claim 10 also recites**, "means for selecting a subset of the set of shipping rule groups and a subset of the set of source locations based on the cost."

The corresponding structure in the specification is found in: 13:5-15 (Although the Appellants mention Fig. 4:415, this is merely the termination block in the flow diagram).

This portion of the Specification merely repeats the function and provides examples as "order guidelines B 313 may be applied to satisfy the demand for seventy five shipping units of product A by loading the shipping units into a transport. However, if a transport holds more than seventy five shipping units then the transport would not have its maximum capacity utilized. After the order guideline has been exhausted, a check is made to determine if the demand has been satisfied (block 411). The demand is satisfied when all products for which a demand has been predicted for the current time period have been loaded into a set of transports. For example seventy five units of

product A does not satisfy the demand for product B of which no shipping units have been loaded. In one embodiment, the best guidelines determination module 235 configures the transports to be fully loaded transports. If the demand has been satisfied then the process is complete (block 415) and instructions may be sent to the source location(s) for loading the set of transports", and does not show a structure or algorithm for selecting a subset of the set of shipping rule groups and a subset of the set of source locations. Although this portion of the Specification provides an example of selecting one subset when another subset does not fill the quota, this example does not describe the structure or algorithm used to arrive at the selecting presented.

**As per claim 10**, it recites, "means for simulating the loading of the set of transports."

The corresponding structure in the specification is found in:13:¶ 0030; Fig. 4:409 (process block in a flow diagram that merely repeats the function)

This portion of the Specification merely repeats the function as "[i]f all of the order guidelines have not been exhausted the next highest priority order guideline may be selected and simulated (block 409). For example, best guidelines determination module 235 may next simulate order guidelines C 317 and A 309. In the example, if a transport can hold 100 shipping units of A or B interchangeably then order guideline C 317 would be successfully used to fully load a transport with seventy five units of product A and twenty five shipping units of product B", and does not show a structure or algorithm for simulating the loading of the set of transports Although this portion of the Specification

provides an example of selecting one subset for simulation, this example does not describe the structure or algorithm used to perform the simulation.

**As per claim 13,** it recites, "means for determining all source locations having the set of resources."

The corresponding structure in the specification is found in: 11:22-31; Fig. 4:405 (process block in a flow diagram that merely repeats the function)

This portion of the Specification merely repeats the function and provides examples as "all of the possible source locations that may provide any subset of the set of products for which demand has been predicted for a target location are determined (block 405). This may include identifying all of the order guidelines related to the set of products for which demand has been predicted for each route between the source locations and target location. In one embodiment, all non-orderable items (e.g., products that are no longer produced, out of stock at all source locations or similar unavailable products) may be removed from the order demands. In a further embodiment, order guidelines that cannot satisfy lead-time or similar criteria for shipping requirements may be removed from consideration.", and does not show a structure or algorithm for determining all source locations.

**(10) Response to Argument**

Appellant argues, (brief, page 7) the Examiner does not address all the characteristics of the source locations recited in the independent claims, including the

aspect that the source locations, from which a selection is made, have the products. The regional shipping companies of Morimoto do not equate to "source locations having the set of products" *(See* independent claims 1, 4, 10, and 14) because the regional shipping companies do not have the products to be shipped... Accordingly, the regional shipping companies have information about the product, but they do not have the products themselves. The requestor who requests quotes from regional shipping companies has the products to be shipped *(See Id.* at Figure 5, item 100 and col. 10, 11.11- 13, the company requesting quotes "receives [the] package to be shipped"). Thus, Morimoto does not teach or suggest "a route determination module to select at least one source location from *the set of source locations having the set of products when the order for the set of products is fulfilled" (See* independent claims 1, 4, 10, and 14, emphasis added).

However, the claim states, “the set of source locations having the set of products when the order for the set of products is fulfilled.” However, fig. 5 depicts item 100 depicts receiving the package to be shipped. Therefore, the Examiner respectfully disagrees, because the package is received by the source location, in order to be shipped.

Applicant argues (brief, page 8) that claim 16 recites "the set of order guidelines includes a default order guideline." The Examiner asserts that Arunapuram discloses this aspect on page 18, col. 2, 11. 43-46, which states "wherein said status updates are used to automatically update records contained in an order database, said database being accessible by customers, carriers, and locations to review the status of select

orders" *(See* Final Office Action mailed May 12, 2009, pg. 10). The Appellants respectfully disagree with the Examiner's assertion.

However, in addition [0011] discusses standards-based electronic data interchange, which allow for automation of transportation operations and collaboration with carriers. This standards-based electronic data interchange is understood as including a default order guideline, because the standards allow information to be conformed to a default. Therefore, the Examiner respectfully disagrees.

Appellant argues (brief, page 9) Claim 18 recites "no product of the set of products is associated with more than one default order guideline." The Examiner asserts that Arunapuram discloses this aspect in paragraph 0038, "orders received through the order interface 306 have a single origin/destination pair" *(See* Final Office Action mailed May 12, 2009, pg. 11). The Appellants respectfully disagree with the Examiner's assertion. Arunapuram does not disclose an association of products with default order guidelines. The above sentence of Arunapuram states that an order has one origin and one destination. Arunapuram does not indicate that the origin and destination comprise any type of default. By contrast, it is presumed that the origin and destination locations are specific to their respective orders and therefore are not established by default. Since Arunapuram does not involve default order guidelines, it follows that Arunapuram does not teach or suggest the limitation that "no product of the set of products is associated with more than one default order guideline" (See claim 18).

However, again, [0011] discusses standards-based electronic data interchange, which allow for automation of transportation operations and collaboration with carriers. This standards-based electronic data interchange is understood as including a default order guideline, because the standards allow information to be conformed to a default. The single pairing in [0038] of the EDI mentioned in [0011] teaches claim limitation of "no product of the set products is associated with more than one default order guideline". Therefore, the Examiner respectfully disagrees.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

This examiner's answer contains a new ground of rejection set forth in section **(9)** above. Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one of the following two options to avoid *sua sponte* **dismissal of the appeal** as to the claims subject to the new ground of rejection:

(1) **Reopen prosecution.** Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

(2) **Maintain appeal.** Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be treated as a request that prosecution be reopened before the primary examiner under 37 CFR 41.39(b)(1).

Extensions of time under 37 CFR 1.136(a) are not applicable to the TWO MONTH time period set forth above. See 37 CFR 1.136(b) for extensions of time to reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

Respectfully submitted,

/OLUSEYE IWARERE/

Examiner, Art Unit 3687

/Matthew S Gart/

Supervisory Patent Examiner, Art Unit 3687

**A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:**

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Conferees:

/Matthew S Gart/

Supervisory Patent Examiner, Art Unit 3687

***
Vincent Millin /vm/
Appeals Conference Specialist